

# DESIGN AND CONSTRUCTION GUIDELINES AND STANDARDS

DIVISION 2 • EXISTING CONDITIONS

## 02 82 00 • ASBESTOS REMEDIATION

### SECTION INCLUDES

02 82 00 Asbestos Abatement

### RELATED SECTIONS

01 22 22 Unit Prices  
01 74 19 Construction Waste Management and Disposal  
02 41 00 Demolition  
07 46 00 Siding  
07 90 00 Sealants  
08 56 00 Windows  
09 25 00 Gypsum Board and Plaster systems  
09 65 00 Resilient Flooring  
22 00 00 Plumbing  
23 00 00 HVAC

### TECHNICAL STANDARDS

#### PROJECT GOALS

All tested materials that contain one percent (1%) asbestos fibers or more, using Polarized Light Microscopy method, are considered hazardous. The disturbance or dislocation of such Asbestos Containing Materials (ACM) may cause asbestos fibers to be released into the environment, thereby creating a potential health hazard to workers and building occupants.

The general project goal is to identify cost effective means of dealing with ACM that comply with all applicable regulations and rules and minimize health and environmental risks during the asbestos abatement, removal or disturbance activities.

#### INVESTIGATION AND RESEARCH

The Designer needs to identify those materials which may be disturbed during construction and thus may be a potential sources of friable asbestos. For example: on a heating job the pipe insulation should be tested, as well as flooring or walls that may be penetrated by heating pipes. Similarly, on an electrical job, areas of conduit penetration should be tested.

Note: Materials installed prior to 1980 are classified as Presumed Asbestos Containing Materials (PACM),. This presumption can be rebutted by testing using Polarized Light Microscopy method, as described in 40 CFR, part 763, Section I. Insulation materials, resilient floor tiles, roofing and, siding shingles, roofing felts, mastics, joint compounds, caulking, glazing, gaskets, wall boards and transite panels are the usual ACM containing materials used in building construction.

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### DESIGN

All asbestos abatement work shall take place in accordance with the provisions outlined in the current local, state and federal regulations. In particular work must adhere to Massachusetts Department of Labor and Workforce Development (DLWD) and Department of Environmental Protection (DEP) regulations regarding asbestos removal and disposal.

Once the locations of the asbestos containing materials (ACM) have been determined, the design goal is the selection of the appropriate , cost effective abatement methods. In general, the options are removal, encapsulation or management in place.

ACM can be placed into the following categories:

1. **Category I: Friable Asbestos Containing Material (Friable ACM)** is defined as any material containing more than one percent (1%) asbestos, which when dry, may be crumbled, pulverized or reduced to powder by hand pressure. It also includes non-friable ACM when such material becomes damaged "to the extent that when dry it may be crumbled, pulverized or reduced to powder by hand pressure".

**Class I Asbestos Work** generally involves the removal/ disturbance of TSI (thermal system insulation) and surfacing ACM or PACM. This removal procedure requires a full containment and a three stage decontamination unit under negative pressure.

Clearance air sampling at the end of the asbestos removal is mandatory.

2. **Category II: Non-Friable Asbestos Containing Material-** Any material excluding Category I friable ACM, containing more than one percent (1%) asbestos

**Class II Asbestos Work** generally involves the removal/disturbance of non-friable ACM which is not thermal system insulation or surfacing material. According to the definition, this includes, but is not limited to, the removal of asbestos-containing wallboard, floor tiles, sheeting, gaskets, joint compounds, roofing felts, roofing and siding shingles and construction mastics. The work area shall be properly isolated to prevent release of asbestos fibers into the adjacent spaces or into the environment. The Contractor should be required to erect mini containments and use wetting agents during the removal/disturbance of ACM.

Visual inspection at the end of the asbestos removal process is mandatory.

3. **Class III Asbestos Work** generally involves the removal of small amounts of Category II materials, as defined in 453 CMR 6.00, Department of Labor and Workforce Development, using a glovebag method or other alternative methods for small scale removals/ disturbances.

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### Typical Situations:

- Old basement piping that is covered with deteriorated asbestos pipe insulation needs to be removed, discarded and replaced with new insulation. This scope typically falls under the Class I removal procedure and requires a full containment abatement method, with a three stage decontamination unit under negative pressure.

Insulation that is essentially intact can be repaired and encapsulated.

- Although vinyl-asbestos floor tile (VAT) can be partially abated to accommodate new floor penetrations (e.g. for heating and electrical systems upgrade projects) as Class III maintenance scope. Our preferred method is to completely remove the VAT.
- If insulation particles are visually detected in the crawl spaces, all visible debris should be carefully cleaned, properly packed and legally disposed of as defined in 310 CMR Regulations. It is recommended to install a new rat slab over the cleaned crawl space floor.

Alternative approaches exist for dealing with various ACM; the designer's task is to identify the method that best balances the budget, environmental risk, and longevity. The time required for residents to be out of their unit should be taken into consideration when determining the appropriate method of ACM removal. Every effort should be made to minimize the relocation time required.

Requirements for procedures during abatement are defined by the applicable regulations, however it is important to note that asbestos removal under full containment is not the *only* procedure allowed by regulations.

Contract documents must clearly identify the type and provide quantities of asbestos containing materials to be abated. They should also identify existing conditions that will affect the work of the abatement contractor such as location of electric panels and water lines which will be used for temporary services, proposed locations of HEPA exhaust systems and decontamination facilities, etc. Coordination shall exist between the abatement under this Section and the work of other trades.

It is important that the contract documents be written to allow the Contractor to decide how to complete the work using the most cost effective, compliant work practice.

Asbestos containing waste shall be containerized, transported and disposed in compliance with all local and state regulations.

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### EXECUTION

Full time abatement monitoring is not required for asbestos abatement projects. Normal construction administration services, with the parallel services of the Asbestos Abatement Consultant including conducting the initial submittal reviews (e.g. medical records, licenses, etc.), final visual inspections and air clearance tests (whichever is required by the class of abatement) are usually adequate project oversight. At the conclusion of the abatement process the Asbestos Consultant shall submit a detailed report to the LHA, which includes a summary of abatement operations, results of air sampling, and documentation relative to the proper disposal of asbestos waste.